

## Supplementary information

### **Acetic acid lignins from the fruits of Chinese quince (*Chaenomeles sinensis*): Effect of pretreatment on their structural features and antioxidant activities**

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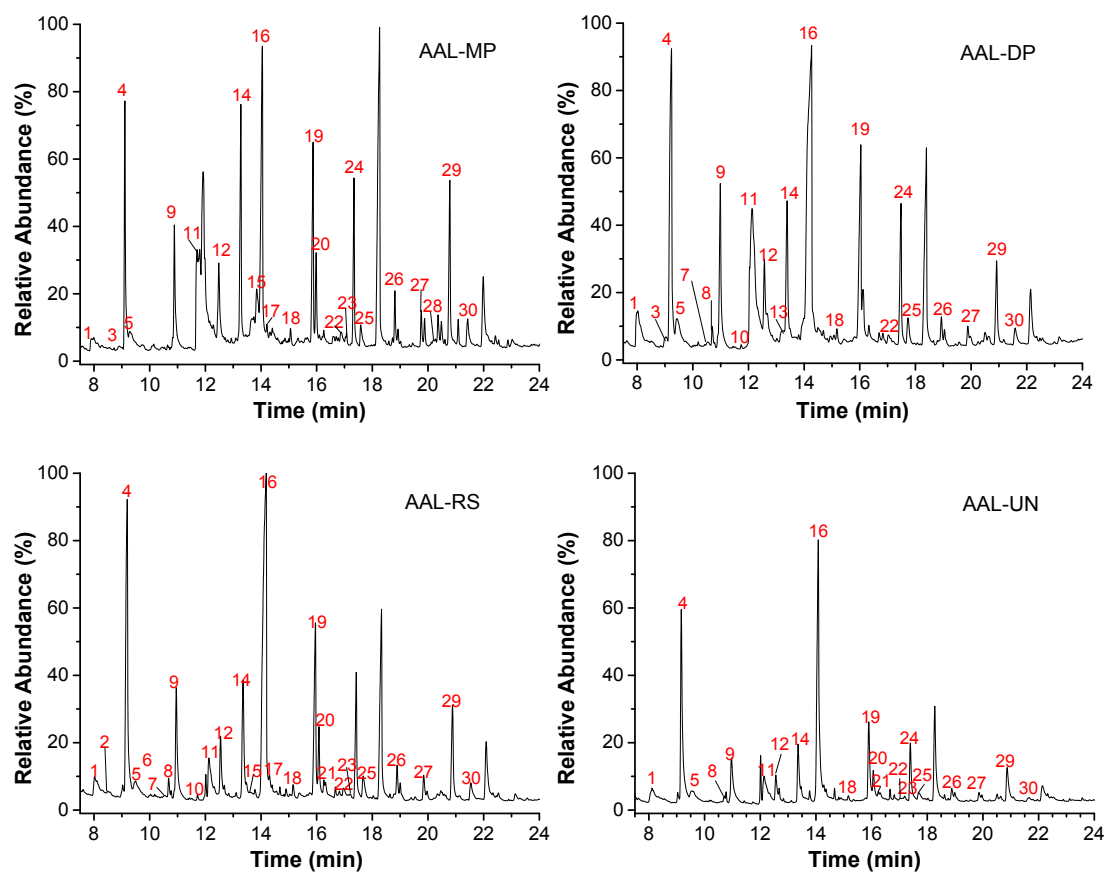
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**Fig. S1** Total ion chromatograms of acetic acid lignin fractions by Py-GC/MS.

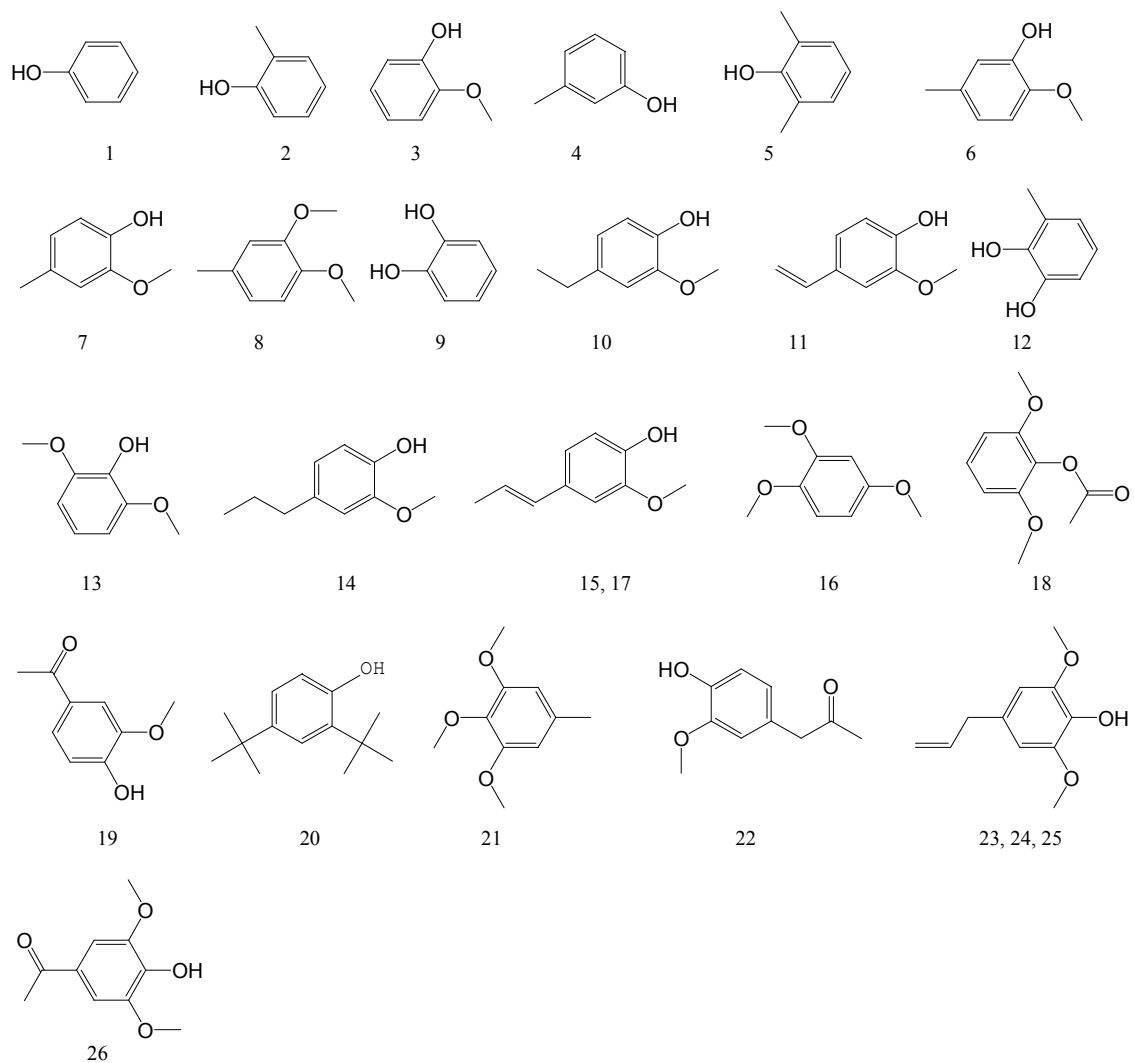
**Fig. S2** The structural compounds labeled in Table 2.

**Fig. S3** Molecular weight distributions of acetic acid lignin fractions.

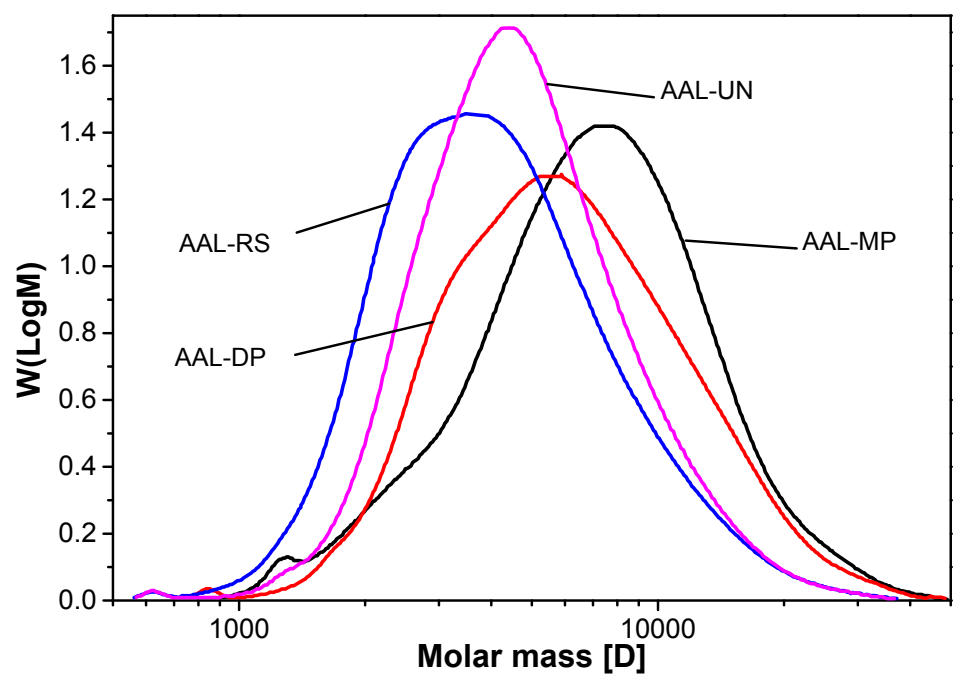
**Table S1** Assignments of <sup>13</sup>C-<sup>1</sup>H cross signals in the HSQC spectra of acetic acid lignin fractions.



**Fig. S1** Total ion chromatograms of acetic acid lignin fractions by Py-GC/MS.



**Fig. S2** The structural compounds labeled in Table 2.



**Fig. S3** Molecular weight distributions of acetic acid lignin fractions.

**Table S1** Assignments of  $^{13}\text{C}$ - $^1\text{H}$  cross signals in the HSQC spectra of acetic acid lignin fractions.

Label	$\delta_{\text{C}}/\delta_{\text{H}}$ (ppm)	Assignment
B $_{\beta}$	54.3/3.01	C $_{\beta}$ -H $_{\beta}$ in $\beta$ - $\beta$ (resinol) substructure (B)
OCH $_3$	56.4/3.68	C-H in methoxyls
A $_{\gamma}$	60.1/3.29	C $_{\gamma}$ -H $_{\gamma}$ in $\beta$ -O-4 substructure (A)
A' $_{\gamma}$	63.8/4.28	C $_{\gamma}$ -H $_{\gamma}$ in $\gamma$ -acylated $\beta$ -O-4 substructure (A')
C $_{\gamma}$	63.9/3.99	C $_{\gamma}$ -H $_{\gamma}$ in phenylcoumaran (C)
B $_{\gamma}$	71.9/3.80-4.18	C $_{\beta}$ -H $_{\beta}$ in $\beta$ - $\beta$ (resinol) substructure (B)
A $_{\alpha}$	72.5/4.85	C $_{\alpha}$ -H $_{\alpha}$ in $\beta$ -O-4 substructure (A)
A $_{\beta}$ (G)	83.9/4.32	C $_{\beta}$ -H $_{\beta}$ in $\beta$ -O-4 substructure linked to G (A)
B $_{\alpha}$	86.1/4.64	C $_{\alpha}$ -H $_{\alpha}$ in $\beta$ - $\beta$ (resinol) substructure (B)
S $_{2,6}$	104.5/6.64	C $_{2,6}$ -H $_{2,6}$ in syringyl unit (S)
G $_2$	112.4/6.93	C $_2$ -H $_2$ in guaiacyl unit (G)
G $_5$	115.9/6.70	C $_5$ -H $_5$ in guaiacyl unit (G)
G $_6$	119.4/6.74	C $_6$ -H $_6$ in guaiacyl unit (G)
H $_{2,6}$	129.4/7.21	C $_{2,6}$ -H $_{2,6}$ in phydroxyphenyl units (H)